



Transformation to an IT Center of Excellence

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Agenda

- **MISO: Who we are**
- **MISO 2020: Where we want to go**
- **From MISO to MISO 2020: How we will get there**
- **Lessons Learned: Initial success stories**
- **Questions**



WHO WE ARE

MISO is CDC's Internal IT Business Solutions Provider



MISO's Mission

To enhance CDC's ability to protect the nation's health through the **delivery of innovative IT business solutions** that increase efficiency, enhance collaboration, and advance public health practice and science

MISO Supplies More Than 60 Systems for CDC

Enterprise Applications

The following list contains links to CDC's Enterprise Applications, supported predominately by Management Information Systems Office (MISO), Office of the Chief Operating Officer (OCOO).

Click on the name of the system for more information.

↓ [CDC Applications](#)

↓ [HHS Applications](#)



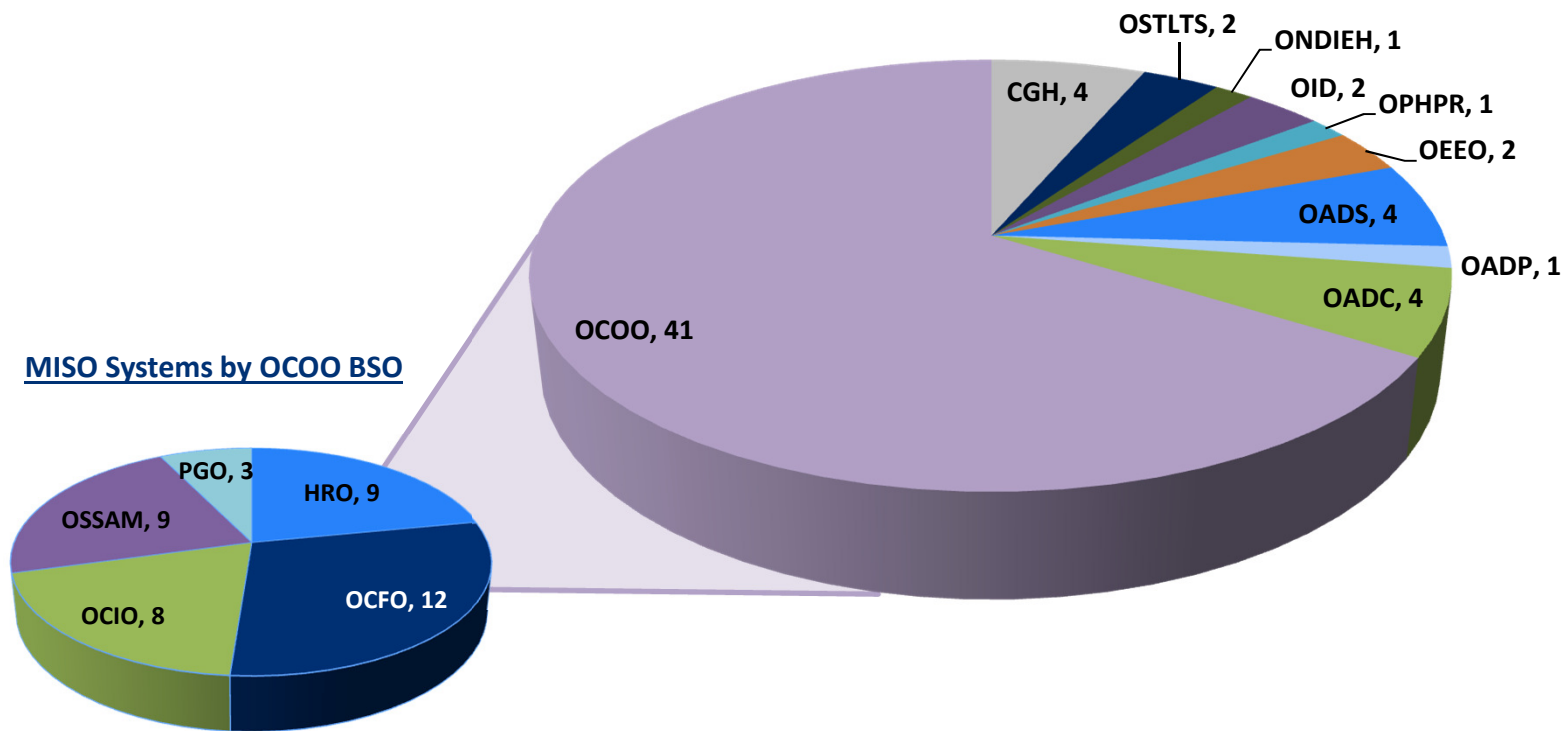
CDC Applications

- Accommodation Tracking System (ATS)
- Activator - Executive Correspondence Control (ECC)
- Administrative Codes
- Agency Budget Planning (IRIS) 10.0
- Approval Task List (ATL)
- Automated Royalty Tracking System (ARTS)
- Auto Decal
- Budget InSight
- CDC's Budget Resource Allocation (CBRA)
- CDC Global Travel
- CDC Neighborhood
- Enterprise Reporting System (ERS)
- Enterprise Systems Catalog (ESC)
- Ethics Program Activity Tracking System (EPATS)

Most can be accessed via
the CDC intranet
[Admin e-Systems page](#)

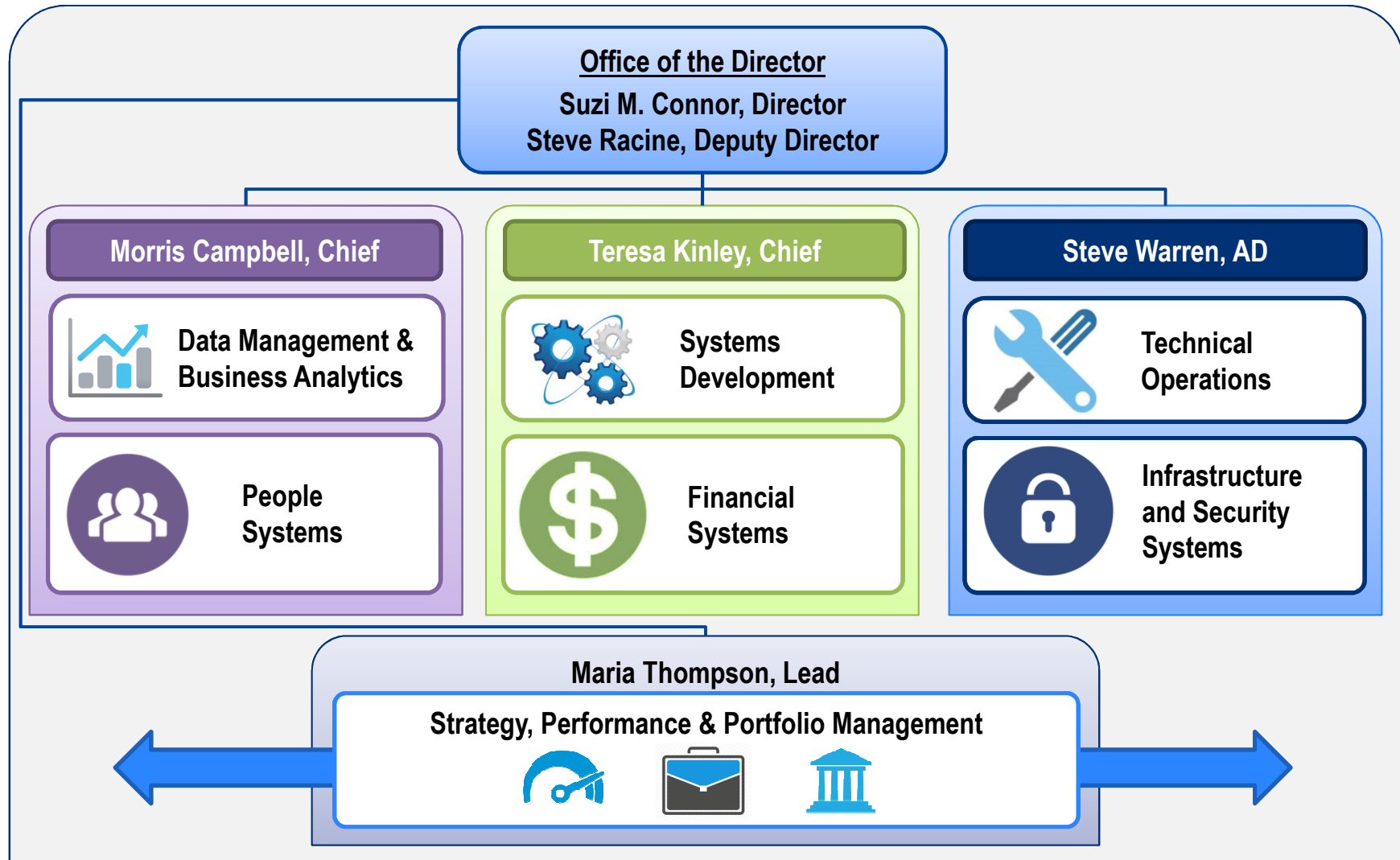
MISO Builds and Maintains Systems for 10 of 17 CIOs

MISO Systems by CIO



2/3 of MISO's systems are for OCOO customers

MISO Org Structure: Functional Areas and LOB



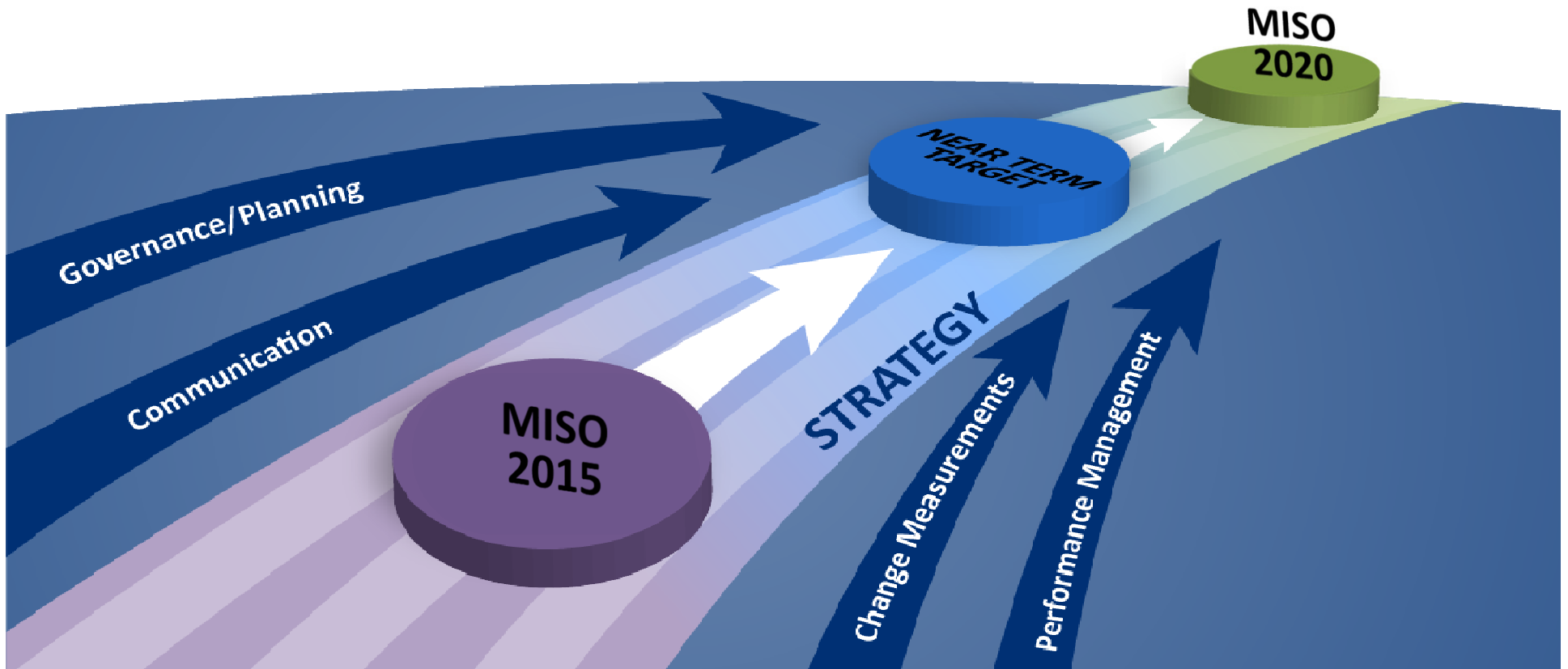


WHERE WE WANT TO GO

MISO 2020 Vision

An **IT center of excellence** for
enterprise business system solutions that improve
agency operational efficiency and decision making

Roadmap – Don't Go Down the Rabbit Hole



"If you don't know where you are going, any road will get you there." – Lewis Carroll

Drivers for Change

1) Transparency

- Cost and schedule
- Development process
- Metrics and reporting emphasis

2) Agility

- New systems and system changes coming faster
- Faster development cycle and time to deliver

3) Working Capital Fund

- Customers have options
- Need to provide higher quality service
- Cost reimbursable transparency

Drivers for Change, continued

4) Technology changes

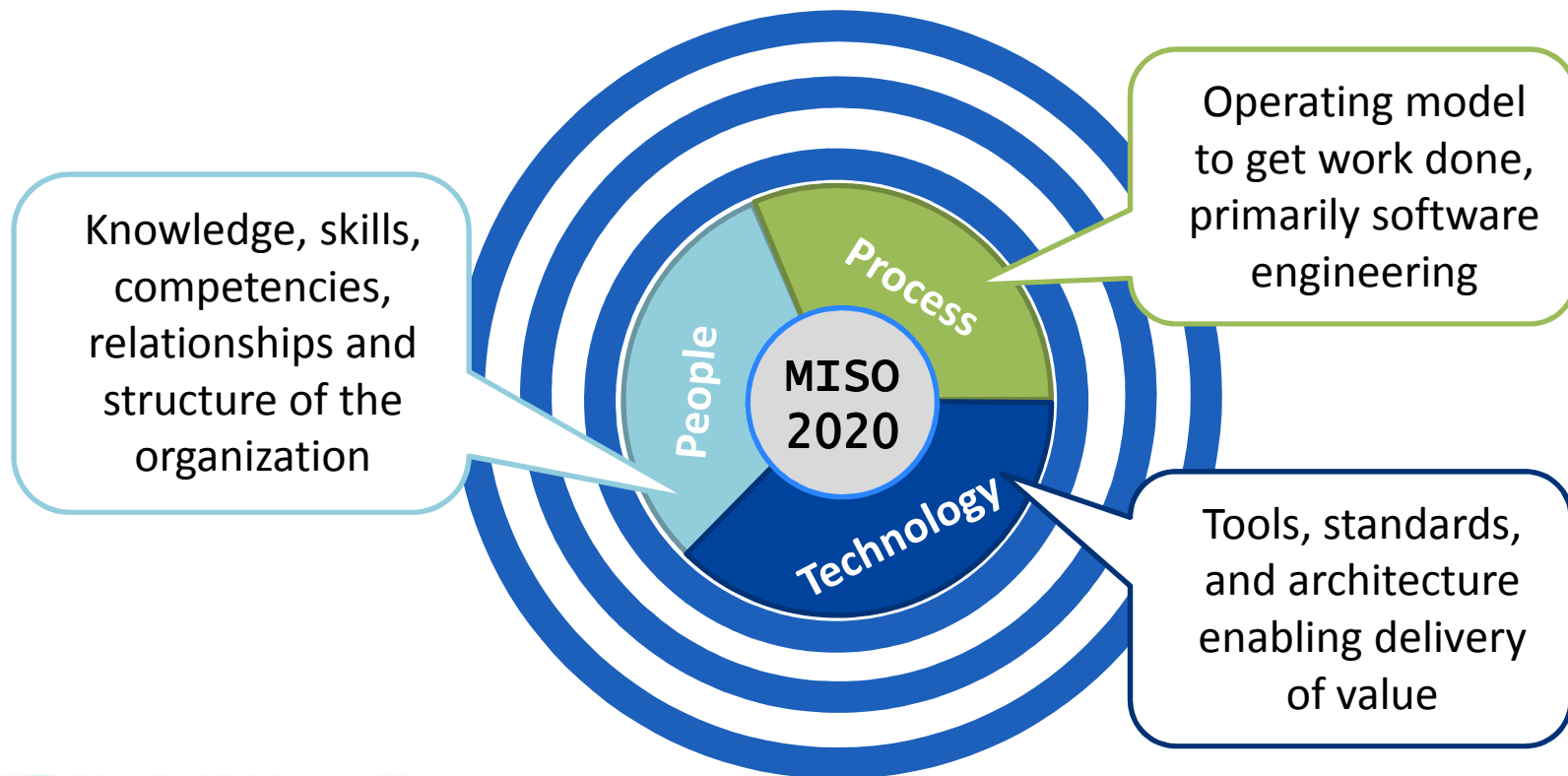
- Mobile applications used internally and externally
- Data visualization
- Shared systems and data
- Data driven decision making decoupled from specific applications

5) Organizational challenges

- Unstructured project management and PMO
- Functional areas and lines-of-business matrix

Target State: Center of Excellence

- **Best practices hybrid maturity model including elements of:**
 - Open Group Service Integration Maturity Model (OSIMM)
 - Capability Maturity Model Integration (CMMI)
- **Maturity model addresses dimensions within three categories:**



MISO Maturity Model Dimensions

	Maturity Model Dimension	Importance to Being an Application Dev COE
People	Business Understanding	Ensures that software is built with business needs in mind
	Customer Engagement	Ensures customer sees value throughout the process
	Governance & Organizational Design	Ensures streamlined and rapid decision making and accountability
	Human Capital Management	How staff is used to support the COE
Process	Agile Software Engineering	How software is built and improved by the COE
Technology	Application Architecture & Design	Ensures that all software is built with a common architecture
	Development Standards	Ensures consistency and reusability of code
	Data & Information	Ensures that high-quality / highly reliable information is used in the software
	Platform Standards	Ensures stability, reusability and lower maintenance costs of software

IT Center of Excellence Maturity Model: People

	Dimensions	Level 1	Level 2	Level 3	Level 4	Level 5
People	Business Understanding	Lack of understanding of customers and their needs; no defined services	Understanding of some customers and needs; Service offerings are understood internally	Qualitative understanding of current customer needs; Published Service Catalog	Published Service Catalog (internally and externally); Qualitative understanding of current and future customer needs	Objective and quantitative data on current and future customer needs
	Customer Engagement	Disengaged with customers	Inconsistent communication and coordination with customers	Defined customer and stakeholder management plan; Not consistently executing against the plan	Full executing against the customer and stakeholder management plans	Tailoring customer communications and engaging on future customer needs
	Governance & Organizational Design	No defined governance and unclear/overlapping organizational functions	Poorly defined and followed governance	Defined organizational structure, roles and responsibilities. Defined governance	Universal compliance with governance; organizational roles and responsibilities are followed	Transparency in decision making and organizational structured is aligned to service delivery model
	Human Capital Management	Skillsets are unknown and likely misaligned; No measure of employee engagement	Skillsets are inventoried; Inconsistent employee engagement	Career paths are mapped; required skillsets known; employee engagement program is in place	Established training program; Employee engagement is actively monitored and managed	IDPs map to skill gaps; established training program; high levels of employee engagement

IT Center of Excellence Maturity Model: Process & Technology

	Dimensions	Level 1	Level 2	Level 3	Level 4	Level 5
Process	Agile Software Engineering	Ad-hoc Process	Repeatable Process	Defined Process	Managed Process	Optimized Process
Technology	Application Architecture & Design	Solutions are not inclusive of UX, Application Architecture, or Security	Some solutions utilize UX, Application Architecture, and Security	All Solutions incorporate UX, Application Architecture & Security	Solutions incorporate integrated UX, Application Architecture & Security	Mature, integrated, proactive UX, Application Architecture & Security
	Development Standards	Ad Hoc Approaches	Partially set of standards	Defined and understood standards	Adherence to standards	Responsive; Evolving Standards
	Data & Information	Data is project-specific	Data is application-specific	Defined data model and data is partially reused/integrated	Data context is understood (information); Established data warehouse	Information as a Service
	Platform Standards	Siloed or application specific platforms	Shared platforms	Defined Reference Architecture	Adherence to Reference Architecture	Robust technology standard and integration platform

TRANSFORMING **miso** TO **MISO** 2020

Agility, Innovation & Service

HOW WE WILL GET THERE

Services. Support. Solutions.



Strategic Imperatives Aligned to OCOO Priorities



Effectiveness	Customer Service	Healthy Enterprise	Efficiency
What are MISO's core services, and how are we aligning our services to current and forecasted CDC needs? How are we leveraging innovative and emerging technologies to answer mission needs? How do we expand MISO's services to serve existing needs and anticipate emerging needs?	Who are MISO's current and future customers? How are we measuring customer satisfaction and project success, and incorporating various feedback into MISO's processes? How are we managing stakeholder relationships to promote MISO's value proposition to CDC? See Figure 5 for some examples of how the MISO leadership team brainstormed product ideas to meet existing and future needs of its customer based.	How are we facilitating growth and professional development of MISO resources? How are we ensuring that all staff understand their roles and how they contribute to MISO's mission? Are the staff aligned and organized to optimize service delivery?	How are we continuously improving MISO's operating model (planning and execution) to reduce costs and deliver products and services quicker? How are we measuring project success, and incorporating internal and external feedback into MISO's process improvement efforts?

SWOT Analysis



- Overall willingness and desire to improve MISO
- MISO is implementing improvements
- Steward of CDC business data (authoritative source)
- MISO has strong technical expertise across functions
- Institutional knowledge of applications and associated data
- Domain knowledge of CDC and interpersonal relationships



- Lack over overall process maturity
- Limited resources
- “Siloed” organization
- Inflexible support contracts
- Contractor autonomy
- Lengthened SDLC process
- Inconsistent EPLC practices



Identify Gaps by Category

People

- Customer engagement
- Resource management
- Customer service
- Operations and maintenance support

Process

- System documentation
- Configuration management
- Environment management, strategy, and standardization
- Project management maturity
- Testing standardization and automation maturity

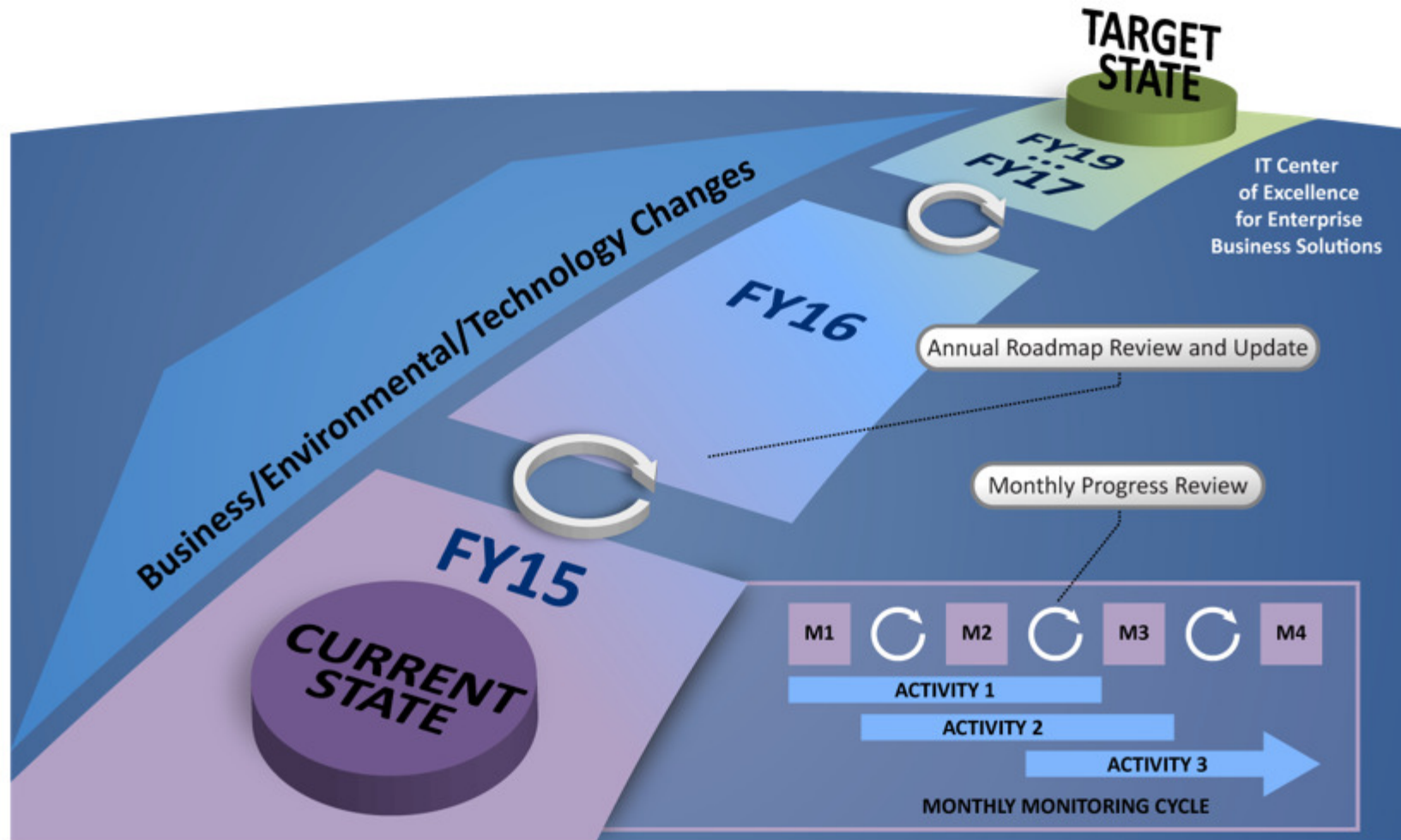
Technology

- Data standards and data management
- Tools integration and rationalization

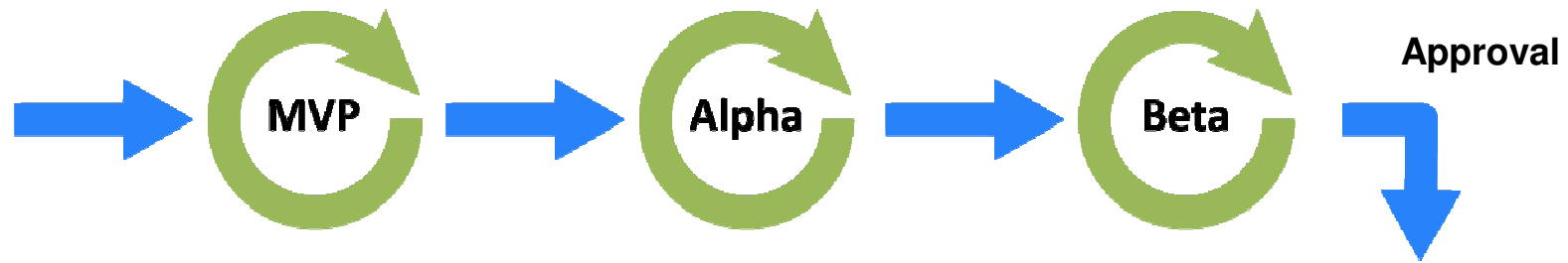
Create Strategic Initiatives by Dimension

People	Dimension	Process	Dimension	Technology	Dimension
Develop Service Catalog (Current Services, Future Services, Retired Services, SC Management Plan)	BU	Develop Configuration Management Plan	ASE	Validate Current State Architecture (Application, Physical Architecture)	AA&D
Develop Customer Service Management Plan	CE	Expand QA Testing Automation	ASE	Develop UX Tools & Templates (Templates for UI and Style Sheets)	AA&D
Develop Stakeholder Management Plan	CE	Define and Implement Requirements Management Process	ASE	Build a Trusted Code Repository	AA&D
Measure Customer Satisfaction (Quantitative Surveys, Benchmarks)	CE	Roll-out Requirements Management Tool	ASE	Mobility	AA&D
Measure Customer Service (Develop Metrics, Gather Data, Benchmark, Identify opportunities for improvement)	CE	Develop Release and Deployment Management Plan	ASE	Define, Publish, and Enforce Standards (Code Reviews, Enforce Code Signing)	DS
Develop Target State Organizational Structure	Org	Improve and standardize project planning practices (process, templates, tools)	ASE	Automate Code Testing	DS
Manage Recruiting & Retention (Employee Engagement Plan (Gallup Q 12 Survey), Recruiting Plan, Succession Planning, Management & Leadership Development)	HCM	Enhance Production Support Processes	ASE	Develop Data Model (Data Dictionary, Change Mgmt Plan, FISMA classes)	D&I
Conduct Staff Development (Skillset Inventory (Current and Projected), Skills Mapping, Career Path, Training Plans)	HCM	Complete Project and System Documentation	ASE	Develop Data Warehouse	D&I
		Develop Product & Service Development Process	ASE	Define Reference Architecture	PS
		Develop Target State Delivery Model	ASE/Gov		
		Develop integrated MISO Governance Model (Integrated Governance Process, Priority Setting & Resource Management Process)	Gov		

Tracking Initiatives Over the Five Year Plan



Sprint Execution Process



- Each sprint is a self-contained unit with a beginning, middle and end that produces or updates a Minimum Viable Product (MVP)
- Sprints last ~1 month
- Each arrow between a sprint represents a product owner/executive sponsor pivot feedback opportunity
- Content and definition of success for each initiative will vary based on the maturity of the initiative
- Approval is part of a quarterly Leadership team strategic alignment session

Initiative Sprint Planning Concepts

- **What does it mean to be agile?**
 - Use a project management technique like Scrum to address aggressive deadlines
- **What does it mean to sprint?**
 - Complete work in a fixed amount of time (3-4 weeks) with a clear definition of success
- **What's an MVP?**
 - Minimal Viable Product
- **Definition of “Done”**
 - Will vary by sprint and team, but what's important is that everyone agrees
 - Should be a discreet “increment” of work that a stakeholder/sponsor can review or ideally use

Keys to a Successful Sprint

- **Obtain executive sponsorship – Gain commitment to go “off-line” to focus on sprint activities**
- **Define success for the sprint - Don’t finesse the “definition of done;” be specific!**
- **Build a high performance sprint team**
 - Roles– facilitator, time keeper, note keeper
 - Norms– meeting principles
 - Terms– be explicit, but don’t split hairs
- **Identify peer and external reviewers to support feedback pivot points**
 - Be open and welcoming of critical feedback
 - Acknowledged experts are better
 - Can be in your stakeholder environment to get an independent view

MISO as an IT Center of Excellence

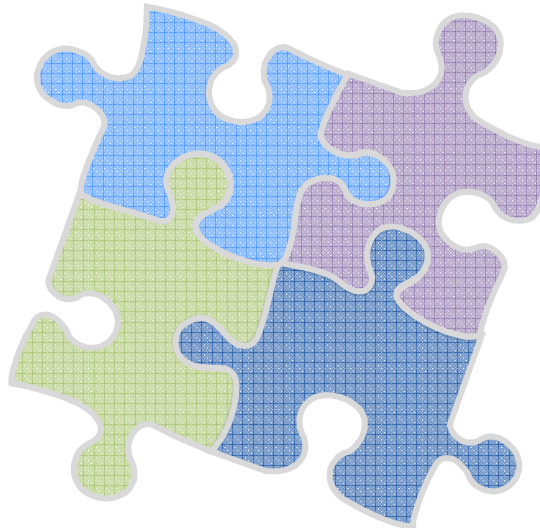
MISO 2020 OPERATING PRINCIPLES

CUSTOMER-CENTRIC

- Understand **user needs**
- Address the whole **user experience**
- Make business solutions **simple and intuitive**

INNOVATIVE

- Solve today's and **anticipate tomorrow's problems**
- **Take risks**; don't be afraid to fail



ACCOUNTABLE

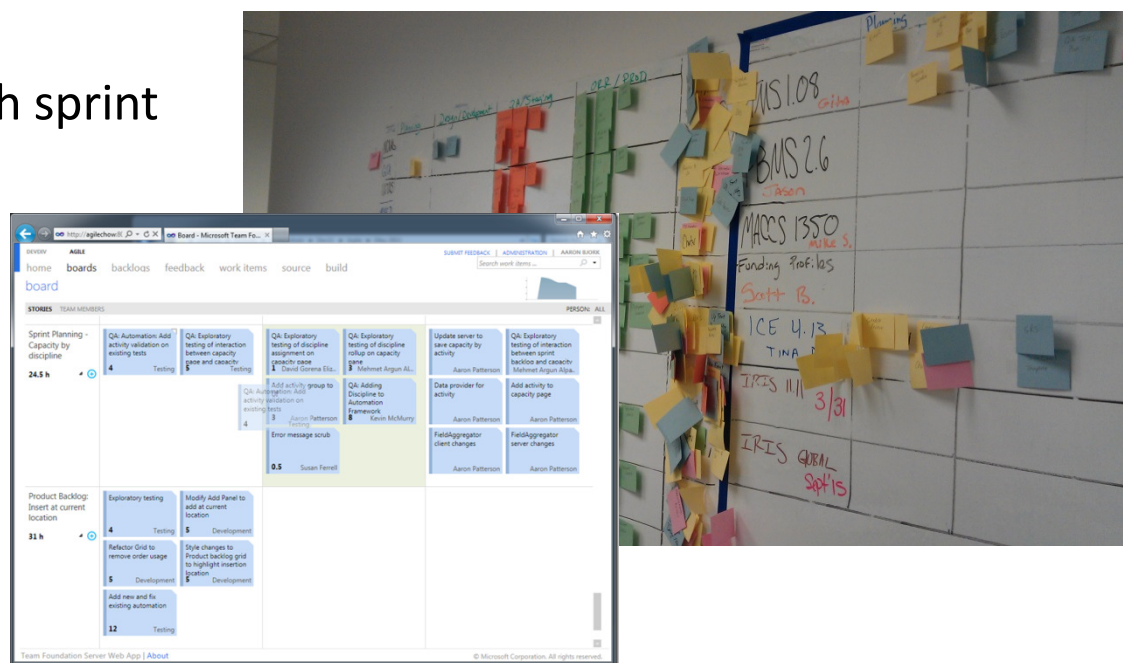
- Rely on **transparency** to engage users and stakeholders
- **Don't hide** behind policy and procedure
- Use **data to drive decisions**

AGILE

- Minimize “time to solution” by using **agile, iterative processes**
- Accept that **user needs will evolve**

“Iterative and Interactive” – MISO’s version of Agile

- Includes components from CDC EPLC and UP, Scrum
- Retains some waterfall, especially in analysis and design phases
- Estimates refined at ROM, Release Planning, and Iteration Planning
- Product backlog items assigned points and pulled into a dev iteration based on how many points were cleared in recent iterations
- Customer sprint reviews
- Embedding testing in each sprint
- Hallway scrum boards
- Electronic scrum boards



Delivering Value

- 
- ✓ Customer Satisfaction
 - ✓ Quality
 - ✓ Transparency



- Customer satisfaction surveys
- Close-out lessons learned
- Embedding testing into each sprint
- Emphasizing UAT
- Customer sprint reviews

- Standardizing estimation templates
- Past experience drives new estimates
- Standardizing and consolidating platforms
- Control scope creep with product backlog
- Code re-use
- DevDev repository
- Approved tools library
- Zero bug challenge



- 
- ✓ Costs
 - ✓ Delivery Time
 - ✓ Bugs

LESSONS LEARNED: INITIAL SUCCESS STORIES

Transformation in Process

- **Near-term changes – focus on meeting customer expectations**
- **Recent achievements/quick wins**
 - Realigned portfolio to People, Financial, Infrastructure/Security
 - Implemented customer satisfaction surveys
 - Instituted formal governance and portfolio management
 - 100% of systems have current Operations Assessments
 - 100% of stage gates held
 - Portfolio review meetings with customer groups
 - Reworked estimating processes
- **Initiatives in progress**
 - Earlier and more frequent customer engagement as we move from waterfall to agile development lifecycle
 - Evaluate KPI's and performance measures
 - Draft formal SLA's and OLA's

Change Story: NCAMS

Non-US Citizen Access Management System (NCAMS)

Status

Release 1.01 Development Phase

Achievements

- Met with customer to discuss Satisfaction Survey for NCAMS 1.0
- Identified 10 gaps and 1 new requirement not in NCAMS 1.0
- Baseline and Design Stage Gates in December
- Divided gaps and new requirement into sprints
- Finished development and deployed to QA on 1/21
- Engaged customer in bi-weekly sprint reviews

Next Steps

- Finish first QA round
- Deploy to UAT following first QA round so customer can get “hands on” earlier
- Operational Readiness Review

Risks/Issues/ Comments

- Replaces Visitor Management System (VMS)
- Avoid scope creep; capture new requirements in product backlog
- Remediate performance issues with time between screens

Release Date

Release 1.01 on 2/27

Change Story: ERS and WMR

Enterprise Reporting Services (ERS)/Workforce Management Reporting (WMR)

Status	Release 1.1 deployed 12/30/14 (to CDC employees)
Achievements	<ul style="list-style-type: none">• WMR fixes technical flaws, security issues, and limited data in WIZ• Enhances agency workforce planning by providing data from multiple sources on all CDC staff• Used Integrated Project Team, including two Management Officials, on design team and UAT• Provided demos across CDC to support user adoption• Used iterative sprints for development• Integrated QA testing throughout sprints• Created SharePoint and SQL Reporting Services framework for self-service reports• Released initial WMR functionality and self-service reporting to all employees
Next Steps	<ul style="list-style-type: none">• Grant access to non-employees• Deploy 26 WIZ replacement reports in Release 1.2• Deploy WDAR reports and Diversity dashboard in Release 1.3 on 2/28/15
Risks/Issues	<ul style="list-style-type: none">• Capturing new reports requirements in product backlog for continuing releases
Comments	<ul style="list-style-type: none">• Ensuring ERS/WMR successfully replace all WIZ functionality
Release Date	Release 1.2 will deploy 1/30/15

Next Steps

- **How do we know we've reached our goal?**
 - Performance measures and KPI's
 - Customer satisfaction surveys
 - Estimates and actuals gaps narrow to less than 10% consistently
- **What's next?**
 - Shared services offerings
 - Expand current offerings such as EDI and SAMS
 - Finish transition to web services
 - Empower decision making through data management
 - Build business analytics
 - Continuously improve web development and move into mobile development
 - Sustain and expand successes



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